



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/577,936 | 06/05/2006 | Shuichi Kohayashi | 127912 | 9479 |
| 25944 7590 11/25/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850 | | | | |
| EXAMINER JACKSON, MONIQUE R | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1794 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 11/25/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,936

Applicant(s)

KOHAYASHI ET AL.

Examiner

Monique R. Jackson

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 7/29/09 has been entered. Claims 4 and 10 have been canceled. Claims 1-3, 5-9 and 11-16 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. Claims 1-3, 5-9 and 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons recited in paragraph 4 and 6 of the prior office action, which do not appear to have been addressed by Applicant's claim amendments or remarks.

Claim Rejections - 35 USC § 103

3. Claims 1-3, 5-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Summers et al for the reasons recited in the prior office action.

4. Claims 1-3, 5, 7-9, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al for the reasons recited in the prior office action.

5. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al for the reasons recited in the prior office action, wherein the Examiner takes the position that the metal layer forming steps recited in Claims 1, 5 and 7, are process limitations that do not appear to materially affect the product in a manner to differentiate the final claimed end product from the product taught by Watanabe et al. Hence, the Examiner maintains her position that the instantly claimed laminate would have been obvious over the teachings of Watanabe et al.

6. Claims 1-3, 5-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al for the reasons recited in the prior office action.

7. Claims 1-3, 5-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al for the reasons recited in the prior office action.

Response to Arguments

8. Applicant's arguments filed 3/16/09 have been fully considered but they are not persuasive. With regards to the rejections under 35 U.S.C. 112, 2nd paragraph, the Examiner notes that the Applicant failed to provide any specific remarks with regards to the individual rejections and only states that the submitted claim amendments overcome the rejections. However, the Examiner notes that the claim amendments fail to address the temperature issue recited in Paragraph 4 of the prior action as well as the clarity issue of Claim 8 as recited in Paragraph 6 of the prior action. With regards to Summers et al, the Applicant argues that Summers et al teach the use of silane coupling agent as an alternative to the use of an adhesive or vapor deposition and hence one having ordinary skill in the art at the time of the invention would not have been motivated to combine these individual, alternative teachings to arrive at the instant invention. However, the Examiner respectfully disagrees and maintains her position that given the teachings of Summers et al with respect to improving adhesion between a polyimide and metal, in general, one having ordinary skill in the art at the time of the invention would have been motivated to combine all three of these known methods of improving adhesion between the polyimide and the metal to yield predictable results, namely improved adhesion. With regards to Hara, the Applicant argues that Hara recites in the abstract that the laminate has excellent adhesion strength between the conductor layer and the polyimide film without performing any

surface roughening treatment or using any adhesive metal layer and hence one having ordinary skill in the art would not have been motivated to "substitute" the coupling agents because they are surface treatment agents. However, as clearly articulated in the rejection, Hara actually recites in Paragraph 0044 of the body of the specification that "[t]he effects of the invention are not worsened by physically roughening the polyimide surface before the formation of the conductor layer, roughening the polyimide surface by a plasma treatment in an inert gas and/or introducing a functional group, or using an adhesive metal layer to thereby **further enhance** the adhesion strength" (emphasis added) and hence Hara do provide a suggestion of further enhancing the adhesion strength by these methods. With regards to Applicant's arguments that the Examiner is taking "Official Notice" that all coupling agents will behave identically, the Examiner respectfully disagrees and notes that in the rejection with respect to Hara as well as Katsuki and Tanaka, the Examiner has clearly articulated that surface treatment with an organic silane coupling agents is a known method or technique to yield predictable results, namely a known method of improving adhesion between a polyimide film and a metal coating or layer, as clearly evidenced by the other references cited in the office action, namely Summers et al as well as Watanabe et al, and hence, the Examiner maintains her position that the instantly claimed invention would have been obvious over the teachings of Hara, Katsuki and Tanaka given the reasonable expectation of success. With regards to Watanabe et al, though the Examiner has withdrawn the process claims from the rejection, the Examiner has maintained rejection with regards to the product claims given that the metal forming limitations and order of forming the laminate appear to be product-by-process limitations that do not materially affect the claimed product in a manner to clearly differentiate it from the teachings of Watanabe et al.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
November 22, 2009